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Patents, Trademarks, Copyrights & Related
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To Examiner Tuyet Thi Vo
USPTO

From Jay Beyer
Pritzkau Patent Group LLC

Number of Pages (including cover) 9

Date Sent June 20, 2006

Fax #: 571-273-8300

Message**Amendment B After Final**

Examiner Tuyet Thi Vo

Please enter the following documents into the file for application serial number 10/820,930. The following documents include:

| | |
|--|----------------|
| Fax cover sheet | 1 page |
| Amendment C Transmittal (In Duplicate) | 2 pages |
| Amendment C | <u>6 pages</u> |
| Total Pages | 9 pages |

If there are any questions regarding this fax, please call Jay Beyer at 303-499-3859.

Sincerely,

Jay Beyer

JUN 20 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Name Anthony Catalano

Serial No. 10/820,930

Filed: April 8, 2004

For: UNIVERSAL LIGHT EMMITTING
ILLUMINATION DEVICE AND METHOD

Examiner: Tuyet Thi Vo

Group Art Unit: 2821

Att. Docket No.: TAG-1
(TAG-001-US-n)

Date: June 20, 2006

CERTIFICATE OF ELECTRONIC TRANSFER I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office on June 20, 2006.

Signed: 

Jay R Beyer

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SIR: Transmitted herewith is an Amendment for the above application.

☒ Small entity status of this application under 37 C.F.R. §§ 1.9 and 1.27 has been established
☒ No additional fee is required.
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The fee has been calculated as shown below:

| | (Col. 1) | | (Col. 2) | (Col. 3) | SMALL ENTITY | | NON- SMALL ENTITY | |
|---|---------------------|-------|------------------------|---------------|--------------|-------------------|----------------------|----------------|
| | Claims Remaining | | Previously Paid For | Present Extra | Rate | Additional Fee | Rate | Additional Fee |
| Total Claims | * 15 | Minus | **49 | 0 | x 25 | \$ 0 | x 50 | \$ |
| Indep. Claims | * 4 | Minus | *** 4 | 0 | x 100 | \$ 0 | x 200 | \$ |
| First Presentation of Multiple Dependent Claim(s) | | | | | +180 | \$ | +360 | \$ |
| | | | | | Total | \$ 0 | Total | \$ |

* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.

** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.

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☐ Applicant(s) hereby Petition(s) for an Extension of Time of _____ month(s) pursuant to 37 C.F.R. § 1.136(a).
☐ Enclosed please find PTO form PTO-2038 authorizing credit card payment of \$_____ to cover the Small Entity Additional Claim fee.☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-1685 (Order No. TAG-1) (a duplicate copy of this sheet is enclosed):☒ Any additional fees associated with the submission of the attached papers.
☒ Any additional filing fees required under 37 C.F.R. § 1.16 for presentation of extra claims.
☒ Any extension or petition fees under 37 C.F.R. § 1.17.

Respectfully submitted,

Jay R Beyer
Registration No. 39,907

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|---|------------------|---------------------|---------------|---------------------|---------------------|
| | Claims Remaining | Previously Paid For | Present Extra | Rate Additional Fee | Rate Additional Fee |
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| Indep. Claims | * 4 | Minus *** 4 | 0 | x 100 \$ 0 | x 200 \$ |
| First Presentation of Multiple Dependent Claim(s) | | | | +180 \$ | +360 \$ |
| * If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3. | | | | Total \$ 0 | Total \$ |

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Respectfully submitted,

Jay R Beyer
Registration No. 39,907

In the Claims

1 -49 (canceled)

50. (currently amended) A device for illuminating an object by directing a beam of light from the device onto the object, comprising:

(a) a housing having a light reflector arrangement supported therewith, said light reflector arrangement including light reflecting surface segments which circumscribe a given area and which define a forwardly extending central axis of illumination; and

(b) an illumination assembly including (i) a printed circuit board having a front surface and a back surface and a side edge extending between said front and back surfaces, (ii) at least one solid state light source having an underside base and mounted onto the front surface of said printed circuit board such that its underside base is adjacent to and confronting said front surface, and (iii) control circuitry connected with said solid state light source and printed on at least one of the surfaces of said printed circuit board for connecting the solid state light source to a source of power in order to control the illumination of said solid state light source, said illumination assembly being connected with said housing such that the solid state light source is disposed within said given area in a way which causes light from said solid state light source to emanate out of said given area at least indirectly by means of reflection so as to project said beam of light in the general direction of said forwardly extending central axis of illumination.

51. (currently amended) An illumination device according to Claim 50 wherein the front surface of said printed circuit board is a planar surface oriented ~~normal~~ perpendicular to and facing in the same direction as said forwardly extending central axis of illumination and wherein said light source is an LED having ~~a mounting and an underside base~~ mounted to said front planar surface and an opposite free end facing forward such that said ~~mounting and free ends~~ underside base and said free end define an axis ~~normal~~ perpendicular to the planar front surface and parallel with said central axis.

52. (previously presented) An illumination device according to Claim 50 wherein said control circuitry is at least printed on the back surface of said printed circuit board.

53. (previously presented) An illumination device according to Claim 50 wherein said solid state light source is an LED.

54. (currently amended) An illumination device according to Claim 50 wherein the front surface of said printed circuit board is a planar surface oriented parallel with said forwardly extending central axis of illumination and wherein said light source is an LED having ~~a mounting and an underside base~~ mounted to said front planar surface and an opposite free end such that said ~~mounting and free ends~~ underside base and said free end define an axis ~~normal~~ perpendicular to said planar front surface and ~~normal~~ perpendicular to said central axis such that said LED directs some of its light ~~normal~~ perpendicular to said central axis towards some of said light reflecting surface segments.

55-56. (canceled)

57. (previously presented) An illumination device according to Claim 50 wherein said illumination assembly includes a plurality of solid state light sources, each of which is an LED.

58. (currently amended) An illumination assembly for use in a device for illuminating an object by directing a beam of light from the device onto the object, said device having a housing including a light reflector arrangement supported therewith, said light reflector arrangement including light reflecting surface segments which circumscribe a given area and which define a forwardly extending central axis of illumination, said illumination assembly comprising:

(a) a printed circuit board having generally planar a front surface and a back surfaces and a side edge extending between said front and back surfaces;

(b) at least one solid state light source having and underside base and mounted onto the front surface of said printed circuit board such that its underside base is adjacent to and confronting said front surface, and

(c) control circuitry connected with said solid state light source and printed on at least one of the surfaces of said printed circuit board for connecting the solid state light source to a source of power in order to control the illumination of said solid state light source;

(d) said illumination assembly being adapted for connection with said housing such that the solid state light source is disposed within said given area in a way which causes light from said solid state light source to emanate out of said given area at least indirectly by means of reflection so as to project said beam of light in the general direction of said forwardly extending central axis of illumination.

59. (previously presented) An illumination assembly according to Claim 58 where in said solid state light source is an LED.

60. (currently amended) An illumination assembly for use as part of a device for illuminating an object by directing a beam of light from the device onto the object, said device including a housing defining a given area for directing said beam of light outward from the housing, said illumination assembly comprising:

(a) a printed circuit board having a planar front surface and a planar back surface and a side edge extending between said front and back surfaces;

(b) at least one solid state light source having an underside base mounted onto the front surface of said printed circuit board such that its underside base is adjacent to and confronting said front surface, and

(c) control circuitry connected with said solid state light source and printed on at least one of the surfaces of said printed circuit board for connecting the solid state light source to a source of power in order to control the illumination of said solid state light source;

(d) said illumination assembly being adapted for connection with said housing such that the solid state light source is disposed within said given area in a way which causes said beam of light from said solid state light source to emanate out of said given area.

61. (previously presented) An illumination assembly according to Claim 60 wherein said solid state light source is an LED.

62. (canceled)

63. (previously presented) An illumination device according to Claim 50 wherein said device is a flashlight.

64. (previously presented) An illumination device according to Claim 50 wherein said housing is configured to received both said illumination assembly and an illumination assembly that includes an incandescent light source rather than a solid state light source, the latter assembly having been replaced by said former assembly.

65. (Canceled)

66. (new) A device according to Claim 60 wherein:

(a) said printed circuit board is longer than it is wide and wherein the planar front and back surfaces of the printed circuit board extends from one lengthwise end of the latter to an opposite lengthwise end thereof, said printed circuit board further including first and second electrically conductive bumps on said lengthwise ends and serving as an electrical input and output, respectively;

(b) the device includes a plurality of solid state light sources mounted on the front surface of said printed circuit board in spaced apart relationship to one another along the elongated length of the circuit board;

(c) said control circuitry is connected with said solid state light sources and said bumps and printed on at least one of the surfaces of said printed circuit board for connecting the solid state light sources to said bumps in order to control the illumination of said solid state light source when said bumps are connected to a source of power.

67. (new) A device for illuminating an object by directing a beam of light from the device onto the object, comprising:

(a) a housing which circumscribes a given area and which defines a forwardly extending central axis of illumination; and

(b) an illumination assembly including (i) a printed circuit board having a planar front surface and a planar back surface and a side edge extending between said front and back surfaces, (ii) at least one LED including a top end and a base end which together define an axis of orientation, the base of said LED being mounted onto the front surface of said printed circuit board such that said axis of orientation is perpendicular to said front surface and such that its base end is adjacent to and confronting said front surface, and (iii) control circuitry connected with said solid state light source and printed on at least one of the surfaces of said printed circuit board for connecting the solid state light source to a source of power in order to control the illumination of said solid state light source, said illumination assembly being connected with said housing such that the axis of orientation of said LED is disposed within said given area parallel with said forwardly extending central axis in a way so as to cause light from said LED to emanate out of said given area in the general direction of said forwardly extending central axis of illumination.

68. (new) A device according to Claim 50 wherein said solid state light source is mounted into direct engagement with the front surface of said PCB.

REMARKS

In the non-final Office Action dated (mailed) March 27, 2006, the Examiner rejected Claims 51 and 54 under 35 USC 112. Claims 50, 51, 53, 54, 57-61 and 63 were rejected under 35 USC 102 as being anticipated by Chun. Claims 52 and 64 were rejected under 35 USC 103 as being unpatentable over Chun in view of Dubue. Claim 65 was withdrawn from consideration.

As indicated above, Claims 50, 51, 54, 58 and 60 have been amended. Withdrawn Claim 65 has been cancelled and Claims 66 to 68 added by this Amendment. For the reasons to follow and for those reasons recited in applicant's last Response dated March 10, 2006 which reasons are incorporated by reference, it is submitted that all of the pending and newly added claims as they now stand are in accord with 35 USC 112 and are allowable over Chun alone or in combination with Dubue.

Referring first to the Examiner's rejection under 35 USC 112, the heart of her rejection was her objection to the term normal as it was being used in Claims 51 and 54. Note that Claims 51 and 54 have been amended to eliminate that term and replace it with the term perpendicular. As is well known and as recited in the Merriam-Webster 11th collegiate dictionary, these terms are synonymous.

Claim 51 depends from Claim 50 which calls for a housing having a reflector arrangement defining a central axis of illumination and which also calls for an illumination assembly including a printed circuit board and a solid state light source. In Claim 50 is recited including front and back surfaces and, as amended here, a side edge extending between the front and back surfaces. Claims 51 now states that the front surface of the PCB is a planar surface oriented perpendicular to and facing in the direction of the central axis of illumination. This claim also states that the LED recited there has a mounting end mounted to said front planar surface and an opposite free end facing forward such that said mounting and free ends define an axis perpendicular to the planar front surface and parallel with said central axis. Clear basis for these perpendicular positional relationships can be found in, for example, Figure 5 which illustrates a PCB 508 having front and back planar surfaces and a side edge extending there between and an array of LEDs 502. Each of the LEDs is shown having its base or mounting end mounted to the front surface of the PCB while its opposite free end and the base end define an axis perpendicular to the front surface. See also Figures 6 and 7. Thus, it is submitted that Claim 51 is in conformance with 35 USC 112.

Claim 54 also depends from Claim 50 and is similar to Claim 51 except that the front planar surface of the PCB extends parallel with the central axis of illumination while the LED extends perpendicular to the front planar surface (as in Claim 51) and thus perpendicular to the central axis of illumination. This is clearly supported by Figure 9. Thus, it is submitted that Claim 54 is in conformance with 35 USC 112.

Attention is now directed to the Examiner's rejection of the claims noted above under 35 USC 102 as being anticipated by Chun. As indicated above, Claim 50 was amended first to add a side edge to the PCB so as to distinguish the front and back surfaces of the PCB upon which the control circuitry may be printed and the side edge upon which the circuitry would obviously not be printed. Second, this claim was amended to emphasize that the solid state light source

recited there is mounted onto the front surface of the PCB such that its underside base is adjacent to and confronting the front surface of the PCB. This is best illustrated in Figures 5, 6, 7 and 9. This requirement that the solid state light source (the LED in some of the claims) be mounted onto the front surface of the PCB such that its underside base is adjacent to and confronting the front surface has been provided in all of the claims. Plus, of course, Claims 51 and 54 have the added requirement of the positional relationship discussed above.

All of this is to be contrasted with Chun which discloses an LED flashlight and which discloses the use of an elongated printed circuit board along with an LED. However, note, for example, Column 2, starting at line 48, where Chun states the following:

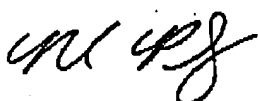
Shown in FIGS. 4-7, an elongated printed circuit board 45 is longitudinally aligned inside the main body 12. Longitudinally aligned and extending from the proximal end of the circuit board 45 is an integrally formed neck 46 which contains terminal 94, 95 to which the terminals 68, 69 on the flashlight's main LED 65 connect. ...

Clearly, Chun does not mount his LED on any surface of his PCB, much less on the front surface such that the underside base of the LED is adjacent to and on confronting relationship with the front surface of the PCB. In fact, it should be clear from the quote immediately above and from an overall reading of the Chun Patent that Chun's LED is not even mounted to the neck of his PCB but merely connected to it by means of terminal wires 68, 69. Moreover, as clearly seen in Figures 6 and 7, at best it can be said that the LED 65 is spaced from (not even adjacent to) an edge of the PCB (as contrasted with one of its planar surface) and, even more clearly, the LED is in confronting relationship with the edge of the PCB, not its planar surface.

For these reasons, it is submitted that Chun does not anticipate Independent Claim 50 or the other independent claims, namely Claims 58, 60 and 67 or their dependent claims. For the same reasons, it is submitted that Claims 52 and 64 are allowable over Chun in view of Duluc.

With particular regard to newly submitted dependent Claim 66, it should be noted that this claim covers essentially what was claimed in withdrawn and cancelled Claim 65 but in dependent form depending from Claim 60 and, hence is allowable along with Claim 60. Moreover, it should be noted that Claim 65 was allowed once.

Respectfully submitted,



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Reg. No. 37,913